

FIG. 1

1 TGGGGTCATCCGGGCTGTCCGAGTCCACAGGGACAAACCCAGCCCGGACGAGGTGCAC 60
61 AGCCAAACACTGAGCCCTCCTTGTCTGTCTCCTGGGCTCAGACCCCTTCCACACCGTTACT 120
121 CAGCCATGGCTCCAGGTCTGTCTGGATCAGCTTGGGTCCAGCTGCTGCCCATGGTGC 180
M A P G P A R I S L G S Q L L P M V P
181 CGTGCTCCTGCTGCGGGCGCAGGCTGCGGCCACAGGGGCCCTCATGGTCCCTCAT 240
L L L L L R G A G C G H R G P S W S S L
241 TGGCCTCGGCAGCTGCCGGTCTGCAGGGGACAGGGACTCCACAGCTACCCGGGGACG 300
P S A A A G L Q G D R D S Q Q S P G D A
301 CAGCAGCCGCTGTGGCCCAAGGCCCGCAGGACATGGTGGCTATCCACATGCTCAGGCTCT 360
A A A L G P G A Q D M V A I H M L R L Y
361 ATGAGAAGTACAACCGAAGAGGTGCTCCACCGGAGGAGGCAACACCGTCCGAAGCTTCC 420
E K Y N R R G A P P G G G N T V R S F R
421 GTGCCCCGGCTGGAAATGATCGACCAAAAGCCTGTGTATTCTTCAACTTGACTTCCATGC 480
A R L E M I D Q K P V Y F F N L T S M Q
481 AAGACTCAGAAATGATCCTCACAGCCGCTTCCACTTCTACTCAGAACCTCCACGGTGGC 540
D S E M I L T A A F H F Y S E P P R W P
541 CCGGGCTGGTGAGGTATTCTGCAAGCCCCCGAGCTAAGAACGCATCTCGCGCTCTCTGA 600
R A G E V F C K P R A K N A S C R L L T
601 CCCCAGGGCTGCCCTGCACGCTTGCACCTAATCTTCCGCACTTCTCCCGAAGAACCGCCA 660
P G L P A R L H L I F R S L S Q N T A T
661 CTCAGGGGCTGCTCCGGGGGCCATGGCCCTGAGCCCTCCACCCAGTGGCCTGTGGCAGG 720
Q G L L R G A M A L T P P P R G L W Q A
721 CCAAGGACATCTCCTCAATCATCAAGGCTGCCCGAAGGGATGGAGAGCTGCTTCTCTG 780
K D I S S I I K A A R R D G E L L S A
781 CTCAGCTGGATAGTGGGAGAGGACCCCGAGTGCCACGGCCAGTTCACCATGCCCT 840
Q L D T G E K D P G V P R P S S H M P Y
841 ATATCCTTGTCTACGCCAATGACCTGGCCCTCTCCGAACCCCAACAGTGTAGCAGTGTGCG 900
I L V Y A N D L A I S E P N S V A V S L
901 TACAGAGATACGACCCATTTCAGCTGGAGACTTTGAGCCTGGAGCAGCCCCCAACAGCT 960
Q R Y D P F P A G D F E P G A A P N S S
961 CAGCTGATCCCCGGCTGCGCAGGGGCTCAGGTGTCAAAACCCCTGCAAGACAAATGAAC 1020
A D P R V R R A A Q V S K P L Q D N E L

FIG. 2A

--NHATIQSIVRA-VGIVPGIPEPCV--PDKMNSLGVFL-DENRNAVLKVYPNMSVEIQACK

ALNHAVLRALMHA--AAPGAADLPCCV--PARLSPISVLEFF-DNSDNVLRQYEDMVVDECCOR

-SNYAFMQALMHM--ADPKVPKAVQV--PTKLSPI SMLYQ-DSDKNVILRHYEDMVVDECCGS

-PVHTMVQNIYE--KLDPSVPRPSQV--PGKYSPLSVLTI-EPDGSIAAYKEYEDMIAIRQICUR

-TNHAI VQTLVNS---VNSKIPKACQ--PTELSAISMLYL-DENERVLRNYQDMVVEGQUR

-TNHAI VQTLVNS ---VNSSIPKACQV --PTELSAISMLYL-DEYDRVLRNYQEMVVEG

-TNHAIVQTLVHL--MNPEYVWPKECA--PIRLNAISVLYF=DUNSNVILKKYRNMVVRACCH

-TNHAIVQTLVHF--INPEIVPKPCA--PIQLNATSLVF=DUSSNVILKRIKNNMVRACCTH

-TNHAI VQTLVHL--MFpDhVpKPCOA==PILNAlSVLI F=DUSSNV ILKKIKNHVMK333333
 MTHH VV CQHHVV M/BNHNVKACOA PTKV SATSVI VV -DCSNNV I I BKA BNMVVKACGCH

-TNHAILQSLVHL--MRPNVAVPRALCA--FIRLSAISVLII-DSSNNVIERKANNIVVKRGGCF
 WWTTCCTVIA "GIDIRCI DEECQV -- BEKMSI CII EE-DENKNVI.KVYPNMTVESCAOB

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--NHA: IQS IVRA=VGVVPGIPEPCV--PENMSLSIEFI--DENKNVAVKVFIMHVAEBCOR
CNIHDI I UKMOI--PCAAI MBPPCV--PTAYACKI.I ISI SEER--TSAHHVPMVATEOCOR
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=GNHVLLKMQA--RGAAALARFPCCV--FIATAGKEEISEEER ISAHMVINVA...
 -PCAPBTBAPBYS-----LI PCAOBCCAALPGTMBPILHVRTTSDGGYSFKYETVPNLLTOHCACI

PGAFFIFAVQFIS--DEFGAVFCRAELCANKLHVKV--
-SEHSTVTNHVYRMBGCHSPFANI.KSCCV--PTKLRPMSMLYY-DDGONI IKKDIQNMI VEEQGS

SEHTAVVNOYRMBG|NPGT-VNSCOI--PTKLSTMSMLYF-DDEYNIVKRDVPNMIVEECCCA

-TNHAYIOSLLKR--YOPHRVPSTCCA--PVKTKPLSMLYV--DNGRVLLEHHKDMIVEECCCL

TOYSKVLALYNO--HNPASAPCCV--PQALEPLIVYY-VGRKPKV-EQLSNMIVRSCKCS

-TQHSRVL\$LYNT--INPEASAPCCV--SQDLEPLTILYY-ICKTPKI-EQLSNMIVK\$OKOS

-TTHSTVLGLYNT--LNPEASAPCCV--PQDLEPLTILYY-VGRTPKV-EQLSNMVKSKCKS

FIG. 3B

% amino acid
identity with
GDF-10

GDF-1	38%
GDF-3	37%
GDF-9	28%
BMP-2	46%
BMP-4	45%
Vgr-1	43%
OP-1	41%
BMP-5	41%
OP-2	39%
BMP-3	83%
MIS	31%
Inhibin α	28%
Inhibin β A	36%
Inhibin β B	35%
Nodal	40%
TGF- β 1	30%
TGF- β 2	30%
TGF- β 3	29%

FIG. 4

KARRKQWDEPRVCSRRYLKVDFADIGWNEWII SPKSFDAYYCAGACEFPM
 ||||:||||||||||||||||||||||||||||||||||||||||||
 KARRRQWDEPRVCSRRYLKVDFADIGWNEWII SPKSFDAYYCAGACEFPM
 PKIVRPSNHATIQSIVRAVGII PGIPEPCCVPDKMNSLGVLFLDENRNVV
 |||||:||||||||||||||||||||||||||||||||||||||
 PKIVRPSNHATIQSIVRAVGIVPGIPEPCCVPDKMNSLGVLFLDENRNAV
 LKVYPNMSVDTACR
 |||||:||||
 LKVYPNMSVETACR

FIG. 5

1 2 3 4

110-
84-

47-

33-

24-

16-

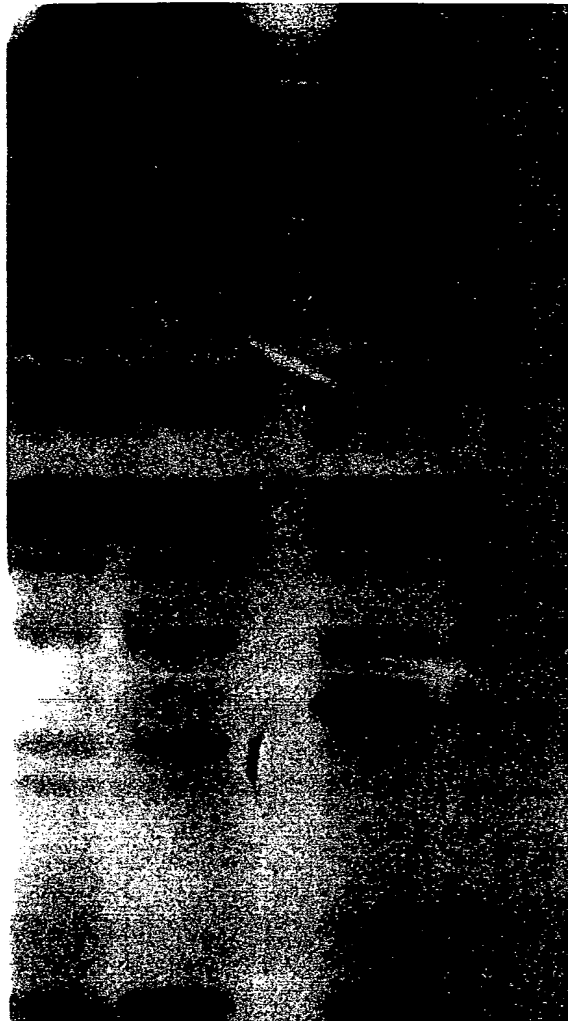


FIG. 6